



Certificate

CDN/E044/-96 (Rev. 20)

Endorsement of Transport Package Design

No. USA/9036/B(U)-96 (Rev. 16)

The transport package design identified below is certified by the Canadian Nuclear Safety Commission pursuant to paragraph 21(1)(h) of the *Nuclear Safety and Control Act* and Subsection 10(1) of the *Packaging and Transport of Nuclear Substances Regulations*, 2015 and to the IAEA's *Regulations for the Safe Transport of Radioactive Material*, 2012 Edition.

REGISTRATION OF USE OF PACKAGES

All users of this authorization shall register their identity in writing with the Canadian Nuclear Safety Commission prior to the first use of this authorization and shall certify that they possess the instructions necessary for preparation of the package for shipment.

PACKAGE IDENTIFICATION

Designer: **Source Production & Equipment Co., Inc.**
Make/Model: **C-1 Source Changer [Nordion F-365]**
Mode of Transport: **Air, Rail, Road, Sea**

IDENTIFICATION MARK

The package shall bear the competent authority identification mark **"USA/9036/B(U)-96"**.

PACKAGE DESCRIPTION

The package as shown on attached Drawing Nos. B322000, (Rev. 3) and B311000, Sheets 2 and 5, (Rev. 2); consists of a rectangular box of 3 mm thick steel with dimensions 190 mm wide by 190 mm deep by 230 mm high and of a polyurethane foam filled drum overpack. The inner receptacle consists of a depleted uranium shield equipped with two closed bottom Zircaloy "J" tubes, each of which may house one special form source assembly.



The configuration of the package is as follows:

Shape: Drum	Shielding: Depleted Uranium
Mass: 45 kg	Outer Casing: Steel
Length: n/a	Height: 521 mm
Width: n/a	Diameter: 368 mm

AUTHORIZED RADIOACTIVE CONTENTS

This package is authorized to contain not more than two sealed source assemblies with a combined output activity* of not more than 11.1 TBq (300 Ci) of Iridium 192, Selenium 75 or Ytterbium 169, encapsulated in a sealed source with a valid special form radioactive material certificate. Authorized source assemblies are:

- i) QSA Global Source Model Nos. A424-9 and 969; and
- ii) SPEC Model Nos. B-16F, B-16T, G-1T, G-1F, G-3F, G-40F, G-40T, G-60, T-5 and T-5F.

* Output activity is determined by measuring the source output at 1 meter and expressing its activity in curies derived from the following: 0.48 R/h-Ci Iridium-192 at 1 meter.

QUALITY ASSURANCE

Quality assurance for the design, manufacture, testing, documentation, use, maintenance and inspection of the package shall be in accordance with:

- Certificate No. USA/9036/B(U)-96, (Rev. 16)
- Packaging and Transport of Nuclear Substances Regulations, 2015
- IAEA Regulations for the Safe Transport of Radioactive Material, 2012 Edition

SHIPMENT

The preparation for shipment of the package shall be in accordance with:

- Certificate No. USA/9036/B(U)-96, (Rev. 16)
- Packaging and Transport of Nuclear Substances Regulations, 2015



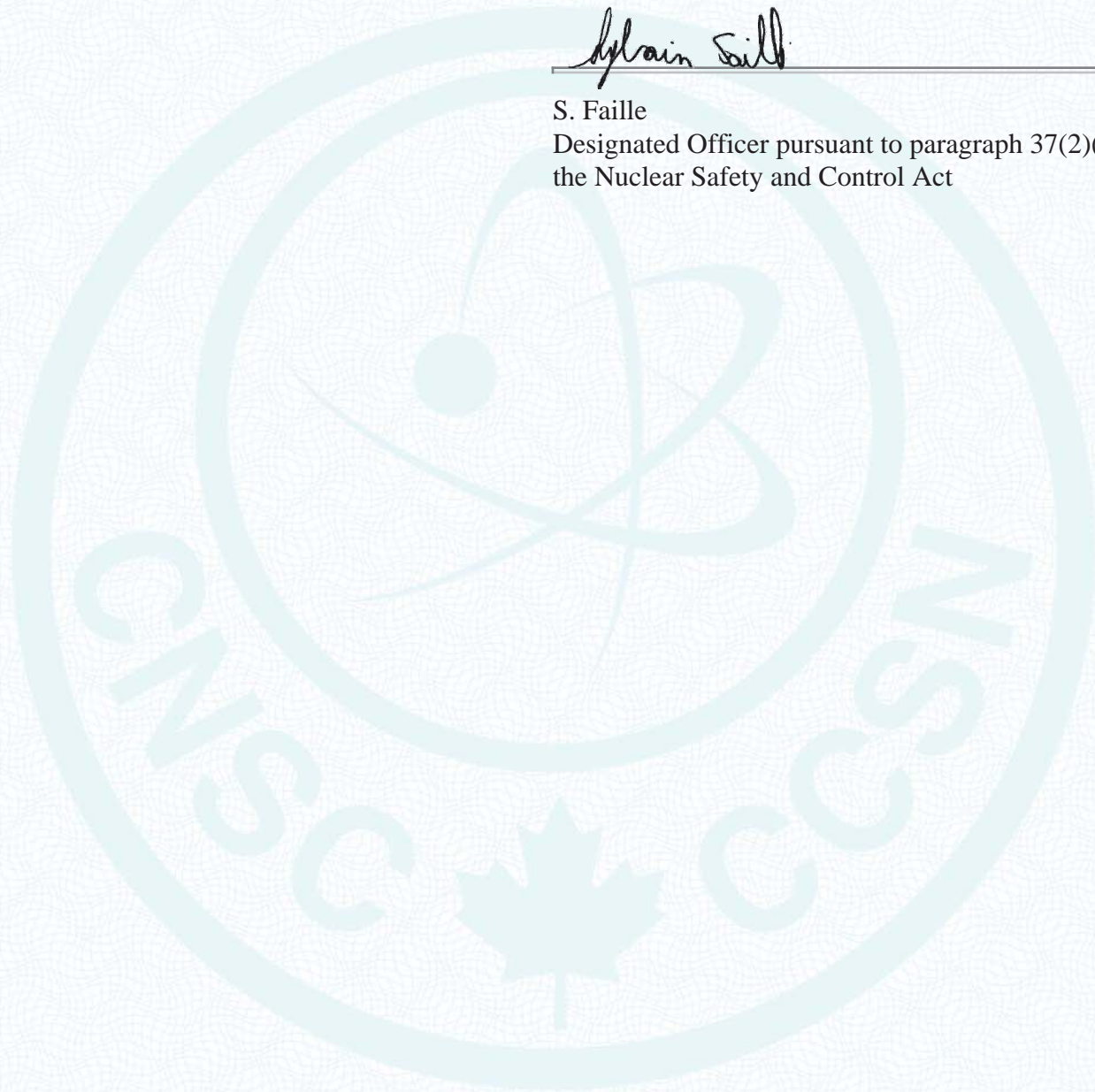
- IAEA Regulations for the Safe Transport of Radioactive Material, 2012 Edition

This certificate is valid only in Canada.



S. Faillie

Designated Officer pursuant to paragraph 37(2)(a) of
the Nuclear Safety and Control Act

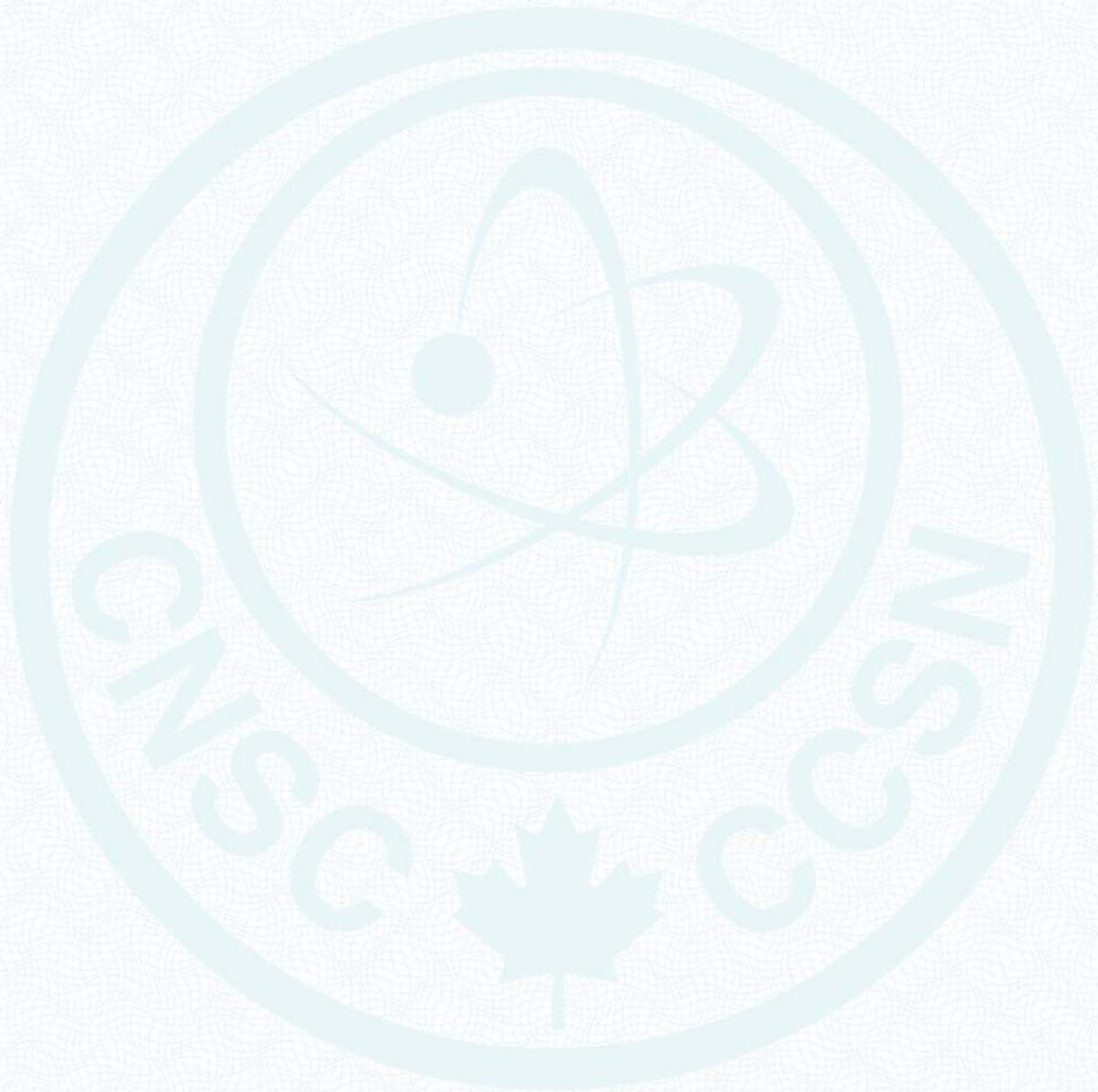


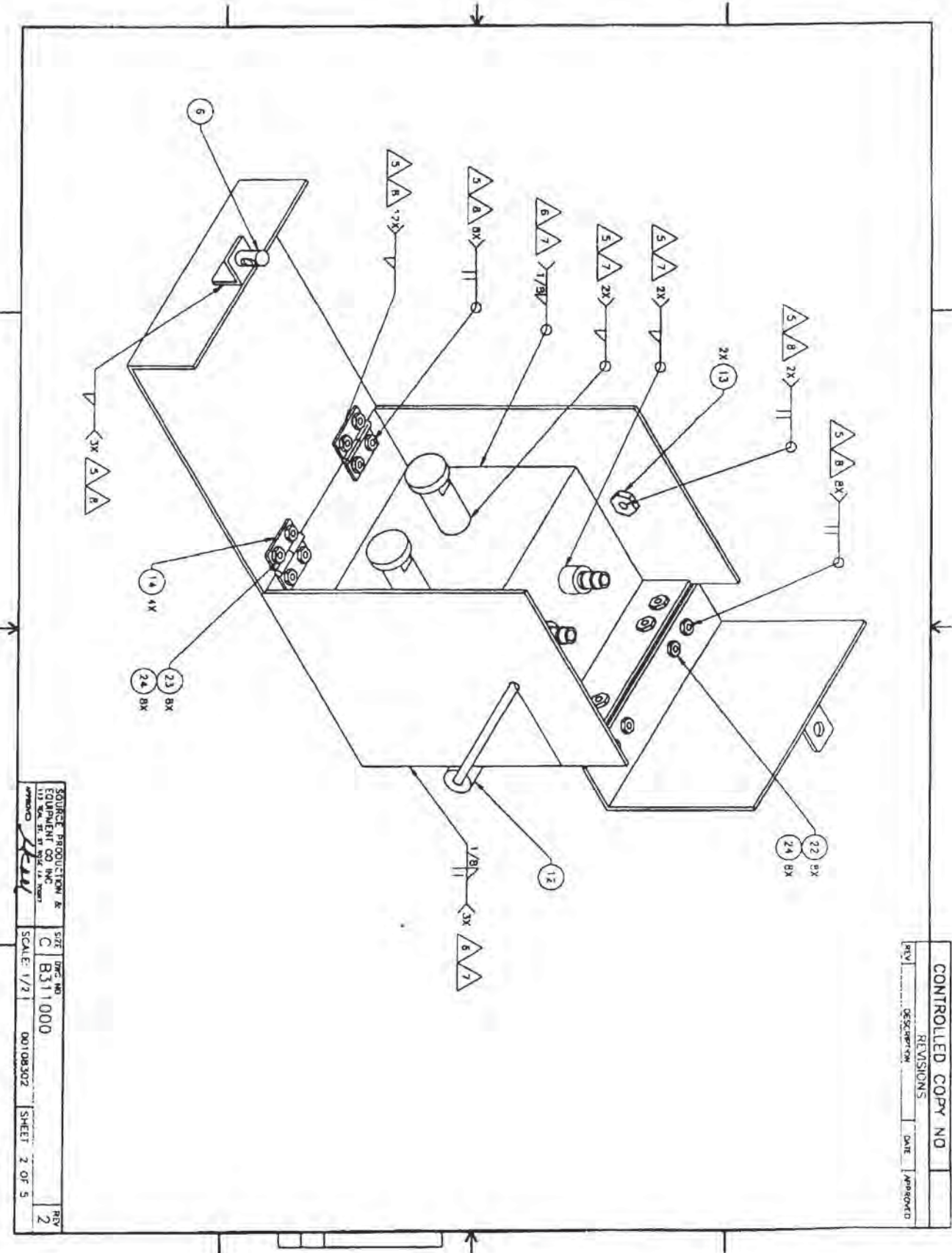


NOTES

Foreign Certificate No. USA/9036/B(U)-96, (Rev. 16) attached.

Revision 20: October 25, 2016. Certificate issued to incorporate Revision 16 of Foreign certificate.

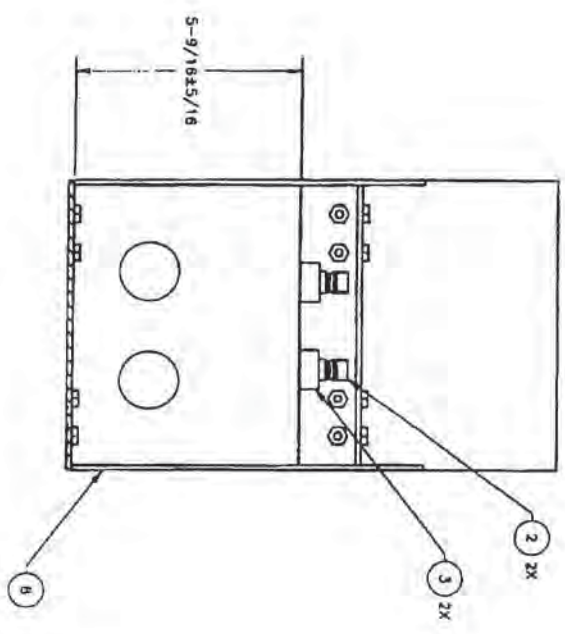




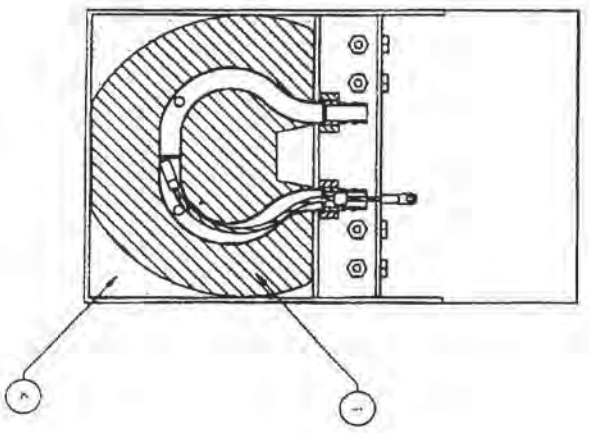
CONTROLLED COPY NO	
REV	DESCRIPTION
DATE	APPROVED

SOURCE PRODUCTION & EQUIPMENT CO INC 113 SW 31 ST MIAMI, FL 33135	
SIZE	DWG NO
C	B31000
SCALE: 1/2"	00108302
SHEET	2 OF 5
REV	2

CONTROLLED COPY NO.			
REV	DESCRIPTION	DATE	APPROVED
	REVISIONS		



SECTION B-B
SEE SHEET J
HANDLE AND HIDDEN
LINES NOT SHOWN



SECTION C-C
SEE SHEET J
HANDLE AND HIDDEN
LINES NOT SHOWN

SOURCE PRODUCTION & EQUIPMENT CO INC 133 TOLSON BLVD ANNAPOLIS, MD 21403		SIZE	DATE
APPROVED: <i>[Signature]</i>		C	B311000
SCALE: 1/2"		00108302	SHEET 5 OF 5
			REV 2